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Please find below and/or attached an Office communication concerning this application or proceeding.

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/716,584
Filing Date: 11/18/2003
Appellant(s): KWEEDER

Sandra P. Thompson
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 7/10/2007 appealing from the Office action mailed 11/15/2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

Although Appellant states that no evidence is being relied upon in the Appeal Brief, appellant refers to the Antec '94 Conference Proceedings references at for example, page 16, paragraph 2 of the Appeal Brief. These references were made of record in the IDS filed by Appellant on February 19, 2004 and are cited as:

Antec '93 Conference Proceedings, New Orleans, 9th-13th, May, 1993, Vol. 1, p. 470-473; and Antec '94 Conference Proceedings, San Francisco, CA, lSL5th May 1994, Vol. 1, p. 116-22.

No evidence is relied upon by the examiner in the rejection of the claims under appeal.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 102

I. Claims 1-10 and 13-24 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by **British Patent No. 2274109**.

The British Patent discloses compositions that contain Nylon 6 or Nylon 6,6 and 1-5% of caprolactam. Fibers of the composition are formed by extrusion. See page 2, paragraph 4 and page 3, paragraph 1.

Response to Arguments

Appellant states that while the concept of gel compositions for forming fibers can be straightforward, successful implementation can be more difficult. Appellant argues that in the British patent, a molding composition that contains nylon and magnesium hydroxide has

caprolactam added to it, to reduce the formation of surface defects. Appellant further argues that there is absolutely no teaching in the British reference that the caprolactam addition to the mixture of nylon and magnesium hydroxide results in the formation of a gel composition.

Appellant arguments filed in the Appeal Brief have been fully considered but they are not persuasive. Appellant argues that there is no teaching in the above reference that the caprolactam addition to the mixture of nylon and magnesium hydroxide results in the formation of a gel composition. However, it is believed that because the components and processing equipment of the patented invention are essentially the same as those of appellant claims, the formation of a gel is inherent. Patentee's silence as to the physical state of the components used in the patented invention, is not clear indication that a physical state which is a gel is precluded. While appellant emphasizes that the lactam of the present claims functions as gelling agent, it is concluded that the same lactam component utilized by appellant is also utilized in the patented invention, particularly caprolactam. It is therefore believed that the present invention is inherently met by the reference.

II. Claims 1-11, 13-25 and 27 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by **Walde us Patent No. 5047459**.

Walde discloses polyamide compositions comprising caprolactam at less than 5% by weight and the production step of extrusion. See col. 2, line 36 through col. 4, line 24.

Response to Arguments

Appellant's arguments in reference to Walde are similar to those presented against the British patent. Appellant states that while the concept of gel compositions for forming fibers can

be straightforward, successful implementation can be more difficult. Appellant argues that in the Walde patent, thermoplastic materials and thermoplastic polycondensation products are described that contain flame retardants and lactams mixed with adducted melamines. The products are then melt processed and the solid formations are ground into powders. Appellant further argues that there is absolutely no teaching in Walde that the lactam addition to the thermoplastic materials or thermoplastic condensation products results in the formation of a gel composition.

Appellant's arguments filed in the Appeal Brief have been fully considered but they are not persuasive. Appellant argues that there is no teaching in the above references that the lactam addition to the thermoplastic materials or thermoplastic condensation products of Walde results in the formation of a gel composition.

However, it is believed that because the components and processing equipment of the patented invention are essentially the same as those of appellant claims, the formation of a gel is inherent. Patentees' silence as to the physical state of the components used in the patented invention, is not clear indication that a physical state which is a gel is precluded. While appellant emphasizes that the lactam of the present claims functions as gelling agent, it is concluded that the same lactam component utilized by appellant is also utilized in the patented invention. It is therefore believed that the present invention is inherently met by the references of record.

III. Claims 1-4, 11, 13, 14, 15, 16, 22-25 and 27 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by **Mason et al, US Patent No. 4745143**.

Mason et al discloses mixtures of caprolactam and hexamethylene adipamide. See col. 1, line 64 through col. 2, line 43, col. 3, lines 9-24 and col. 6, lines 64-67.

Response to Arguments

In response to the rejection, appellant states that in Mason, plasticizers are added to polyamides to improve flexibility of the polyamide. Appellant argues that there is absolutely no teaching in Mason that the plasticizer addition to the polyamides results in the formation of a gel composition. Appellant further argues that, in Column 4, lines 48-52, it is stated that the plasticizer can leach out of the polyamide leaving voids behind that can be filled with the salt compositions that are later added. Appellant concludes that this description indicates that there cannot be a gel composition formed, because a gel composition would not leach the plasticizer and leave behind voids.

Once again, it is believed that because the components and processing equipment of the patented invention are essentially the same as those of appellant claims, the formation of a gel is inherent. Patentees' silence as to the physical state of the components used in the patented invention, is not clear indication that a physical state which is a gel is precluded. While appellant emphasizes that the lactam of the present claims functions as gelling agent, it is concluded that the same lactam component utilized by appellant is also utilized in the patented invention. It is therefore believed that the present invention is inherently met by the references of record. Appellant's statement that certain possible adverse effects, such as void formation, attributable to the plasticizer component of Mason is clear indication that a gel is not produced by Mason, is not convincing. This statement is considered to be based upon opinion.

IV. Claims 1, 2, 4-14, 16-24, 27 and 28 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by **Shridharani et al, US Patent No. 5,223,196**.

A discussion of the pertinent teachings of Shridharani et al is provided in the 35 USC 103 rejection below.

Response to Arguments

In response to the rejection based upon Shridharani, appellant states that a pigmented hexamethylene adipamide fiber is melt-spun from a melt blend of a polymer and a colored pigment. Appellant argues that the background section of the present application clearly points out that melt processing is undesirable and that the compositions contemplated in the current application do not need to be melt processed because of the formation of a gel composition. Appellant concludes that the disclosure of the present application makes it very clear that formation of the gel composition and gel processing is an alternative to melt blending and melt spinning. Appellant concludes that Shridharani provides the conventional method of processing these types of materials.

Appellant arguments filed in the Appeal Brief have been fully considered but they are not persuasive. Appellant's specification at pages 11 and 12 indicates that melt blending and melt spinning procedures are not precluded from the present invention. Appellant indicates that thermal energy above the meting point may be applied to the materials and that spun-fiber products are contemplated. Patentees' silence as to the physical state of the combined components used in the patented invention is not clear indication that said physical state is not gel-like. While appellant emphasizes that the lactam of the present claims functions as gelling agent, it is concluded that the same lactam component utilized by appellant is also utilized in the

patented invention. It is therefore believed that the gel composition of the present invention is inherently achieved by the reference.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-24, 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over British Patent No. 2,274,109 as applied to claims 1-10 and 13-24 in view of Shridharani et al, US Patent No. 5,223,196.

The British patent equates nylon 6 and nylon 6, 6.

Shridharani et al discloses an improved process for melt-spinning a pigmented hexamethylene adipamide fiber. In one form of the invention two recurring amide-forming moieties are incorporated into the polyamide to be spun by polymerizing a blend of nylon 6,6-forming monomers, i.e. hexamethylene diamine and adipic acid or hexamethylene adipate salt, with 0.25 to 10 weight percent each, preferably 0.4 to 7.5 weight percent each, of two or more different difunctional polyamide-forming monomers to produce a random interpolyamide which is a terpolymer or a multi-polymer. For instance, Example 1 of the patent illustrates a terpolymer formed by the polymerization of nylon 6,6 forming monomers, caprolactam, and sodium 5-sulfoisophthalate. The processes of the invention can be used to produce nylon fibers having different degrees of orientation and therefore different tensile properties.

Example 1 of the patent is a random terpolymer of nylon 6,6; 3 wt % polymerized units of caprolactam; and 2 wt % polymerized units of sodium 5-sulfoisophthalate. These percentages of components meet the weight percent requirements of appellant claims. The fibers may be used to form carpets. Patentee explains that as the fiber's orientation increases, its tenacity is increased. Depending on the tenacity and other fiber properties needed for a given end-use application, the desired degree of orientation is determined. The total mechanical draw necessary to achieve that level of orientation, and hence the desired fiber properties, is then set. The freshly-spun fiber is drawn by tensioning it typically between feed rolls and faster-turning draw rolls, the ratio between the two (draw ratio) being the measure of the draw and the degree of orientation being achieved. If the tension on the fiber is too high as it is being drawn at any given draw ratio, breaks occur and the process is disrupted. It is therefore desirable to reduce the draw tension necessary to achieve a predetermined draw ratio. Fibers to be used in textile and carpet applications, for example, require comparatively low tensile strength, and the freshly-spun fibers are typically drawn from as little as about 150% for textile yarns to about 250-300% to provide tensile properties (about 3 grams/denier tenacity and about 65% elongation) suitable for carpet fibers. Patentee further explains that for industrial applications however, higher tenacity fibers are desirable and consequently more orientation is needed.

See col. 2, lines 1-25, col. 4, line 35 through col. 5, line 50. Also see col. 13, line 20 through col. 14, line 61.

(10) Response to Arguments

Appellant argues that the disclosure of the present invention makes it very clear that formation of the gel composition and gel processing is an alternative to melt blending and melt

spinning. Therefore, Shridharani provides the conventional method of processing these types of materials. Appellant's specification at pages 11 and 12 indicate that melt blending and melt spinning procedures are not precluded from the present invention. Appellant indicates that thermal energy above the meting point may be applied to the materials and that spun-fiber products are contemplated. Patentees' silence as to the physical state of the combined components used in the patented invention is not clear indication that said physical state is not gel-like. While appellant emphasizes that the lactam of the present claims functions as gelling agent, it is concluded that the same lactam component utilized by appellant is also utilized in the patented invention. It is therefor believed that the gel composition of the present invention is inherently achieved by the reference.

In response to appellant argument that the references fail to show certain features of appellant invention, it is noted that the features upon which appellant relies (i.e., that there is no recognized solvent system for gel-processing of polyamide-6) are not recited in the rejected claim(s), because the claims do not limit the amide-based polymer to polyamide-6. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Kriellion Sanders

Primary Examiner

AU 1796

Conferees:

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